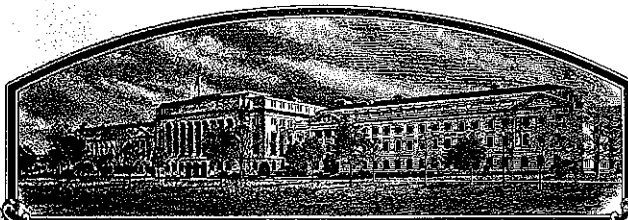


No.

200500012



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

*Emergent Genetics, Inc.*

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COTTON

'NG 2448R'

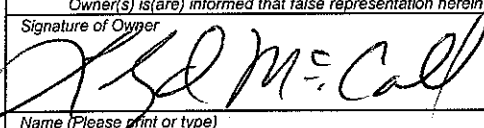
*In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-fifth day of March, in the year two thousand and five.*

Attest:



*[Signature]*  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*[Signature]*  
Secretary of Agriculture

REPRODUCE LOCALLY. Include form number & date on all reproductions.		Form Approved - OMB No. 0581-0055	
U.S. Department of Agriculture Agricultural Marketing Service Science & Technology Plant Variety Protection Office		The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C.552a) and the Paperwork Reduction Act (PRA) of 1995.  Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).	
<b>APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE</b> (Instructions & information collection burden statement on reverse)			
1. Name of Owner <b>Emergent Genetics, Inc.</b>		2. Temporary Designation or Experimental Name <b>OTRR048 &amp; STX2448R</b>	3. Variety Name <b>NG 2448R</b>
4. Address (Street & No., or R.F.D. No., City, State & ZIP Code, and County) <b>6625 Lenox Park Drive, Suite 117 Memphis, TN 38115 USA</b>		5. Telephone (Include area code) <b>901-375-5800</b>	FOR OFFICIAL USE ONLY PVPO Number <div style="font-size: 2em; font-weight: bold;">2005 000 12</div>  Filing Date <div style="font-size: 1.5em;">OCTOBER 29, 2004</div>
		8. FAX (include area code) <b>901-375-5860</b>	
7. If the Owner Named is Not a "Person", Give Form of Organization (corporation, partnership, association, etc.) <div style="text-align: center;"><b>Corporation</b></div>		9. Date of Incorporation <b>December 9, 1999</b>	
10. Name & Address of Owner Representative(s), to serve in this application (First person listed will receive all papers)  <b>Lloyd L. McCall, Ph.D. 6625 Lenox Park Drive, Suite 117 Memphis, TN 38115</b>		Filing & Examination Fees \$ <b>3,652.00</b> Date: <b>10/29/04</b> Certification Fee: \$ <b>432.00</b> Date: <b>1/4/05</b>	
11. Telephone (Include area code) <b>901-375-5829</b>	12. Fax (Include area code) <b>901-375-5860</b>	13. E-Mail <b>lmccall@emergentgenetics.com</b>	14. Crop Kind (common name) <b>cotton</b>
15. Genus & Species Name of Crop <div style="text-align: center;"><b>Gossypium hirsutum</b></div>		16. Family Name (botanical) <div style="text-align: center;"><b>Malvaceae</b></div>	17. Is the Variety a First Generation Hybrid? <div style="text-align: right;"><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</div>
18. Check appropriate box for each attachment submitted (follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A: Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B: Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C: Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D: Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E: Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Exhibit F: Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fees (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. Does the owner specify that seed of this variety be sold as a class of certified seed? (See Section 83(a) of the Plant Variety Protection Act) <div style="text-align: right;"><input type="checkbox"/> Yes (If 'yes', answer items 20 &amp; 21 below) <input checked="" type="checkbox"/> No (If 'no', go to item 22)</div> 20. Does the owner specify that seed of this variety be limited as to number of generations? <div style="text-align: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</div> 21. If "Yes" to item 20, which classes of production beyond breeder seed? <div style="text-align: right;"><input type="checkbox"/> Foundation <input type="checkbox"/> Registered <input type="checkbox"/> Certified</div>	
22. Has the variety (including any harvested material) or a hybrid produced from this variety been sold, disposed of, transferred, or used in the U.S. or other countries? <div style="text-align: right;"><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</div> If yes, you must provide the date of first sale, disposition, transfer, or use for each country and the country and the circumstances. (Please use space indicated on reverse.)		23. Is the variety or any component of the variety protected by intellectual property right (Plant breeder's right or patent)? <div style="text-align: right;"><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</div> If yes, please give country, date of filing or issuance, and assigned reference number. (Please use space indicated on reverse.)	
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.  The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
Signature of Owner 		Signature of Owner	
Name (Please print or type) <b>Lloyd McCall</b>		Name (Please print or type)	
Capacity or Title <b>Director of U.S. Research and Development</b>	Date <b>October 28, 2004</b>	Capacity or Title	Date

**General:** To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be received in the PVPO: (1) Completed application form signed by owner; (2) Completed exhibits A, B, C, E; (3) For a seed reproduced variety, at least 2,500 viable untreated seeds; for a hybrid variety, at least 2,500 untreated seeds of each line necessary to reproduce the variety; or for tuber reproduced varieties, verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) Check drawn on a U.S. Bank for \$2,705 (\$320 filing fee and \$2,385 examination fee) payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice). Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initiated and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

**Plant Variety Protection Office**

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

**ITEM:**

- 18a. Give: (1) The genealogy, including public and commercial varieties, lines, or clones used, and the breeding method.  
(2) The details of subsequent stages of selection and multiplication.  
(3) Evidence of uniformity and stability; and,  
(4) The type and frequency of variants during reproduction and multiplication and state how these variants may be identified.
- 18b. Give a summary of the variety's distinctness. Clearly state how this application, variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:  
(1) Identify these varieties and state all differences objectively.  
(2) Attached statistical data for characters expressed numerically and demonstrate that these are clear differences, and,  
(3) Submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

21. **CONTINUED FROM FRONT** – (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. **CONTINUED FROM FRONT** – (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

February, 2004

23. **CONTINUED FROM FRONT** – (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right {Plant Breeder's Right or Patent}.)

USA	5,728,925	5,352,605	4,940,835
	5,804,425	5,633,435	
	5,717,084	5,188,642	

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center - East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/isg/seed/is-sd.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write the USDA Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T - 470 (07-01) designed by the Plant Variety Protection Office with WordPerfect 9.0. Replaces STD-470 (04-01) which is obsolete.

## **Exhibit A: Origin and Breeding History**

### **Variety: NG 2448R**

NG 2448R was derived from a backcross breeding program with the cotton variety 'Holland 186' (PVP # 9600141) as the recurrent parent. The initial cross to incorporate Monsanto's Roundup Ready® (transgenic event 1445) gene and subsequent backcrosses were conducted by Monsanto.

The BC2F2 generation of this population was planted in a Monsanto nursery in Puerto Rico in the winter of 1996-97 and sprayed with Roundup® herbicide. Holland Cottonseed Company (purchased by Stoneville Pedigreed Seed Company in 1997; Stoneville Pedigreed Seed Co. is now known as Emergent Genetics, Inc.) personnel selected individual Roundup-resistant plants from this nursery.

Progeny rows from the selected plants were grown at Holland's nursery in Big Spring TX the summer of 1997. These rows were sprayed with Roundup® herbicide and individual plants were harvested from the rows that were homozygous for the transgene.

Progeny rows from the 1997 plant selections were grown during the winter of 1997-98 in the Republic of South Africa (RSA). This nursery was sprayed with Roundup® and rows homozygous for the transgene were identified. One of these rows, number 30026, was harvested in bulk and identified as 8TRR074.

8TRR074 was tested in Texas in 1998 and 1999 and seed was increased both years (1998 in Block NST4PB, row 41084 at Idalou TX; in 1999 in Block EST3PB, row 11019 at Maricopa AZ). Seed grow-out nurseries were sprayed with Roundup® to confirm and ensure RR purity. In 1998 and 1999, significant variation within 8TRR074 was observed, and in the 1999 seed grow-out, individual BC2F6 plants were selected to improve the uniformity of the variety.

Plant selections from 1999 were grown as progeny rows in RSA in the winter of 1999-2000. Plant 1 from Row 11019 from Arizona in 1999 was planted as Row 9094 in RSA in 1999-2000, harvested in bulk, and the new strain was identified as 0TRR048.

0TRR048 was tested in Texas in 2000-02 and seed grown out each year in Maricopa AZ (2000 in Block NST7PB, Rows 20205-20206; 2001 in Block AST3PB, Rows 15104-16105; 2002 in Block MVTXPB, Rows 1004-12005). The variety was re-named NG 2448R.

### **Maintenance of the Variety**

The variety will be maintained through pure line maintenance of breeder seed and production of foundation and registered classes of seed.

### **Statement of Uniformity and Stability**

NG 2448R has been evaluated in many environments from 2000 to 2003 across the cotton belt by the staff of Emergent Genetics, Inc. and many public researchers. No off-types were detected and no variants were noted in the variety.

During this four year evaluation period, NG 2448R was uniform and stable.

## Exhibit B: Statement of Distinctness

### Variety : NG 2448R

NG 2448R has a compact plant growth habit and has a strong, erect central stem. NG 2448R is most similar to ST 2454R; however, it has longer and stronger fiber and has yellow pollen.

Trait	NG 2448R	ST 2454R
Fiber Length (INCHES HVI) <sup>PERCENT</sup>	1.105	1.045
Fiber Strength (HVI)	31.5	28.55
Pollen Color	Yellow	Cream

\* Values are means from replicated trials conducted in near Idalou and Edmonson, Texas during 2002. Trials were conducted using a randomized complete block experimental design with four replications at each location.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB N. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

**EXHIBIT C  
(COTTON)**

**U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705**

**OBJECTIVE DESCRIPTION OF VARIETY  
COTTON (*Gossypium* spp.)**

NAME OF APPLICANT(S):

Emergent Genetics, Inc.

 TEMPORARY  
DESIGNATION:  
OTRR048  
STX2448R

 VARIETY NAME:  
NG 2448R

ADDRESS (Street and No., or R.F.D. No., City, State, &amp; ZIP Code):

 Emergent Genetics, Inc.  
6625 Lenox Park Dr., Suit 117  
Memphis TN 38115

 FOR OFFICIAL USE ONLY  
PVPO NUMBER

200500012

Place the appropriate data that describes the varietal characteristics of this variety in the space provided. Characteristics described, including numerical measurements, should represent those that are typical for the variety. Royal Horticultural Society or any recognized color fan may be used to determine plant colors. Characters marked with an asterisk (\*) indicate necessary characters to be measured.

SPECIFIC VARIETIES USED FOR COMPARISON AS CHECK VARIETIES IN THIS APPLICATION: (Use standard regional check varieties which are adapted to your area. One of the comparison varieties must be the most similar variety used in Exhibit B.

Variety 1: ST 2454R

Variety 2

Variety 3

\* 1. SPECIES:

X

*G. hirsutum* L.*G. barbadense* L.

\* 2. AREA(S) OF ADAPTATION: (A = Adapted, NA = Not Adapted, NT = Not Tested)

 X Eastern  
Plains  
Other (Specify)

 Delta  
Western

 Central  
Arizona

 Blacklands  
San Joaquin

3. GENERAL: Characteristics which are known to be variable, but are still useful for a meaningful description of variety.

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
<b>Plant Habit:</b> Spreading, Intermediate, Compact	Compact	Intermediate		
<b>Foliage:</b> Sparse, Intermediate, Dense	Intermediate	Sparse		
<b>Stem Lodging:</b> Lodging, Intermediate, Erect	Erect	Erect		
<b>Fruiting Branch:</b> Clustered, Short, Normal	Normal	Normal		

3. GENERAL: (Continued)

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
<b>Growth:</b> Determinate, Intermediate, Indeterminate	Intermediate	Intermediate		

200500012

<b>Leaf Color:</b> Greenish yellow, Light green, Medium green, Dark green	Medium Green	Medium Green		
<b>Boll Shape:</b> Length less than width, Length equal to width, Length more than width	L>W	L>W		
<b>Boll Breadth:</b> Broadest at base, Broadest at middle	Middle	Middle		
<b>*4. MATURITY:</b> (50% Open bolls; Preferred method; Describe method if different method was used.)				
% open on given date (Mean of 20 tests in 2002-03, LSD (0.05) = 2.0%)	55.6%	53.8%		
<b>5. PLANT:</b>				
<b>Cm to 1<sup>st</sup> Fruiting Branch:</b> (from cotyledonary node) Mean of 4 locs, 2003, LSD = 1.26	19.96	19.49		
<b>No. of Nodes to 1<sup>st</sup> Fruiting Branch:</b> (excluding cotyledonary node) Mean of 4 locs, 2003, LSD = 0.27	6.30	6.30		
<b>Mature Plant Height cm:</b> (from cotyledonary node to terminal)				
<b>* 6. LEAF:</b> Upper most, fully expanded leaf.				
<b>Type:</b> Normal, Sub Okra, Okra, Super Okra	Normal	Normal		
<b>Pubescence:</b> Absent, Sparse, Medium, Dense <b>OR</b> Trichomes/cm <sup>2</sup> (Bottom surface excluding veins)	Medium	Medium (variable)		
<b>Nectaries:</b> Present or Absent	Present	Present		
<b>* 7. STEM PUBESCENCE</b>				
Glabrous, Intermediate, Hairy	Hairy	Hairy		
<b>*8. GLANDS:</b> (Gossypol) Absent, Sparse, Normal, More than Normal				
<b>Leaf:</b>	Normal	Normal		
<b>Stem:</b>	Normal	Normal		
<b>Calyx Lobe:</b> (normal is absent)	Normal	Normal		
<b>*9. FLOWER:</b>				
<b>Petals:</b> Cream, Yellow	Cream	Cream		
<b>Pollen:</b> Cream, Yellow	Yellow	Cream		
<b>Petal Spot:</b> Present, Absent	Absent	Absent		

6

* 10. SEED:	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
<b>Seed Index:</b> (g/100 seeds, fuzzy basis) Mean of 7 locations in 2003, LSD =0.1	10.6	10.4		
<b>Lint Index:</b> (g lint/100 seeds)	6.4	7.2		
* 11. BOLL:				
<b>Lint Percent:</b> Picked _____ Pulled _____				
OR				
<b>Gin Turnout:</b> Picked _____ X _____ Stripped _____	37.0%	39.1%		
<b>Number of Seeds per Boll:</b>	29.9	30.8		
<b>Grams Seed Cotton per Boll:</b>	5.4	5.8		
<b>Number of Locules per Boll:</b>	4.8	4.7		
<b>Boll Type:</b> (Stormproof, Storm Resistant, Open)	Stormproof	Storm resistant		
12. Fiber Properties:				
<b>Specify Method (HVI or other)--HVI</b>				
<b>*Length: (inches, 2.5% SL)</b> (UHM, mean of 26 locations in 2000-03, LSD (0.05) = 0.01 in.	1.10 in.	1.06 in.		
<b>*Uniformity: (%)</b> (mean of 9 locations in 2002, LSD (0.05) = 0.7%	83.7%	82.8%		
<b>*Strength, T1 (g/tex)</b> (mean of 24 locations in 2000-03, LSD (0.05) = 0.3 g/tex	30.9	28.2		
<b>*Elongation, E1 (%)</b> (mean of 9 locations in 2002, LSD (0.05) =0.3	8.3	8.3		
<b>*Micronaire:</b> (mean of 24 locations in 2000-03, LSD (0.05) =0.1	4.0	4.2		
<b>Fineness (Source _____)</b>				
<b>Yarn Tenacity: (cN/tex, 27 tex)</b>				
<b>Yarn Strength: (lbs. 22's)</b>				

13. DISEASES: (NT = Not Tested, S = Susceptible, MS = Moderately susceptible, MR = Moderately Resistant, R = Resistant)

<u>NT</u> <i>Alternaria macrospora</i>	<u>MR</u> Fusarium Wilt (2002-03 Tallassee)
<u>NT</u> Anthracnose	<u>NT</u> Phymatotrichum Root Rot
<u>NT</u> Ascochyta Blight	<u>NT</u> <i>Pythium</i> (specify species)
<u>NT</u> Bacterial Blight (Race 1)	<u>NT</u> <i>Rhizoctonia solani</i>
<u>NT</u> Bacterial Blight (Race 2)	<u>NT</u> Southwestern Cotton Rust
<u>R</u> Bacterial Blight (Race 18 (TAES screen, 2003))	<u>NT</u> Thielaviopsis basicola

13. DISEASES: (continued) NT = Not Tested, S = Susceptible, MS = Moderately susceptible, MR = Moderately Resistant, R = Resistant

<u>NT</u> Diplodia Boll Rot	<u>MR</u> Verticillium Wilt
-----------------------------	-----------------------------



\_\_\_\_\_ Other (specify) \_\_\_\_\_

14. NEMATODES, INSECTS, AND PESTS: (NT = Not Tested, S = Susceptible, MS = Moderately susceptible, MR = Moderately Resistant, R = Resistant)

NT Root-Knot Nematode

NT Reniform Nematode

NT Boll Weevil

NT Grasshopper (specify species) \_\_\_\_\_

NT Bollworm

NT Lygus (specify species) \_\_\_\_\_

NT Cotton Aphid

NT Pink Bollworm

NT Cotton Fleahopper

NT Spider Mite (specify species) \_\_\_\_\_

NT Cotton Leafworm

NT Stink Bug (specify species) \_\_\_\_\_

NT Cutworm (specify species): \_\_\_\_\_

NT Thrips (specify species) \_\_\_\_\_

NT Fall Armyworm

NT Tobacco Bud Worm

\_\_\_\_\_ Other (specify): \_\_\_\_\_

15. COMMENTS: Present any additional information that cannot adequately be described in 1 through 13 which significantly distinguishes your variety.

NG 2448R contains Monsanto's Roundup Ready® technology

## Exhibit D: Additional Description of the Variety

### Variety : NG 2448R

Supporting information for Exhibit B.

Idalou, TX, 2002

Trait	NG 2448R	ST 2454R	LSD 0.05
Fiber Length	1.11	1.05	0.03
Fiber Strength	31.3	28.1	1.6

Edmonson, TX, 2002

Trait	NG 2448R	ST 2454R	LSD 0.05
Fiber Length	1.10	1.04	0.04
Fiber Strength	31.7	29.0	1.7

\* Values are means from replicated trials. Trials were conducted using a randomized complete block experimental design with four replications at each location.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)  Emergent Genetics, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  OTRR048, STX2448R	3. VARIETY NAME  NG 2448R
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)  6625 Lenox Park Drive Suite 117 Memphis, TN 38115 USA	5. TELEPHONE (Include area code)  901-375-5800	6. FAX (Include area code)  901-375-5860
7. PVPO NUMBER  <b>2005 000 12</b>		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use the reverse for extra space):

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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